FCC PART 90 and
PART 15, SUBPART B TEST REPORT

for

VIDEO TRANSMITTER

Model: 2.4THP-90

Prepared for

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DATE: FEBRUARY 8, 2003

	REPORT BODY	APPENDICES					TOTAL
		A	***B***	***C***	***D***	***E***	
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GENERAL REPORT SUMMARY

This electromagnetic emission test report is generated by Compatible Electronics Inc., which is an independent testing and consulting firm. The test report is based on testing performed by Compatible Electronics personnel according to the measurement procedures described in the test specifications given below and in the "Test Procedures" section of this report.

The measurement data and conclusions appearing herein relate only to the sample tested and this report may not be reproduced without the written permission of Compatible Electronics, unless done so in full.

This report must not be used to claim product endorsement by NVLAP or any other agency of the U.S. Government.

Device Tested:	Video Transmitter Model: 2.4THP-90 S/N: N/A
Product Description:	See Expository Statement.
Modifications:	The EUT was not modified during the testing.
Emission Designator	8MOF3F (see section 8 of this test report)
Manufacturer:	Microtek Electronics, Inc. P.O. Box 3464 San Clemente, California 92674
Test Date:	January 14, 15, and 29, 2003
File # For Canada:	IC2154-A
Test Specifications:	EMI requirements CFR Title 47, Part 90, Subpart I; and CFR Title 47, Part 15, Subpart B
Test Procedure:	ANSI C63.4: 1992 and TIA/EIA-603-A: 2001
Test Deviations:	The test procedure was not deviated from during the testing.

SUMMARY OF TEST RESULTS

TEST	DESCRIPTION	RESULTS
1	Conducted RF Emissions, 450 kHz - 30 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B
2	RF Power Output of the EUT	Complies with the limits of CFR Title 47, Part 90, Section 90.205 (1)
3	Modulation Characteristics – Audio Frequency Response	This test was not performed because this test is not applicable to the EUT
4	Modulation Characteristics – Modulation Limiting Response	This test was not performed because this test is not applicable to the EUT
5	Occupied Bandwidth for the EUT	Complies with the limits of CFR Title 47, Part 90 Section 90.210 (b)
6	Radiated RF Emissions on the Digital Portion 30 MHz – 25000 MHz	Complies with the **Class B** limits of CFR Title 47, Part 15, Subpart B
7	Radiated Spurious Emissions on the Transmitter portion – 10 kHz to 25000 MHz	Complies with the limits of CFR Title 47, Part 90 Section 90.210 (b)
8	Spurious Emissions at the Antenna Terminal	Complies with the limits of CFR Title 47, Part 90 Section 90.210 (b)
9	Frequency Stability	Complies with the limits of CFR Title 47, Part 90 Section 90.213

1. PURPOSE

This document is a qualification test report based on the Electromagnetic Interference (EMI) tests performed on the Video Transmitter Model: 2.4THP-90. The EMI measurements were performed according to the measurement procedure described in ANSI C63.4: 1992 and TIA/EIA-603-A: 2001. The tests were performed in order to determine whether the electromagnetic emissions from the equipment under test, referred to as EUT hereafter, are within the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 90, Subpart I.

2. ADMINISTRATIVE DATA

2.1 Location of Testing

The EMI tests described herein were performed at the test facility of Compatible Electronics, 114 Olinda Drive, Brea, California 92823.

2.2 Traceability Statement

The calibration certificates of all test equipment used during the test are on file at the location of the test. The calibration is traceable to the National Institute of Standards and Technology (NIST).

2.3 Cognizant Personnel

Microtek Electronics, Inc.

Michael Henkoski President

Compatible Electronics Inc.

Kyle Fujimoto Test Engineer
Michael Christensen Test Engineer

2.4 Date Test Sample was Received

The test sample was received on January 14, 2003.

2.5 Disposition of the Test Sample

The test sample has not been returned to Microtek Electronics, Inc. as of February 5, 2003.

2.6 Abbreviations and Acronyms

The following abbreviations and acronyms may be used in this document.

RF	Radio Frequency
EMI	Electromagnetic Interference
EUT	Equipment Under Test
P/N	Part Number
S/N	Serial Number
HP	Hewlett Packard
ITE	Information Technology Equipment
CML	Corrected Meter Limit
LISN	Line Impedance Stabilization Network
Tx	Transmitter
Rx	Receiver

3. APPLICABLE DOCUMENTS

The following documents are referenced or used in the preparation of this EMI Test Report.

SPEC	TITLE
CFR Title 47, Part 15	FCC Rules – Radio frequency devices (including digital devices)
ANSI C63.4 1992	Methods of measurement of radio-noise emissions from low-voltage electrical and electronic equipment in the range of 9 kHz to 40 GHz.
CFR Title 47, Part 90	FCC Rules – Private Land Mobile Radio Services
TIA / EIA-603-A 2001	Land Mobile FM or PM Communications Equipment – Measurement and Performance Standards

4. DESCRIPTION OF TEST CONFIGURATION

4.1 Description of Test Configuration - EMI

Specifics of the EUT and Peripherals Tested

For Part 15 and 90 testing: The Video Transmitter Model: 2.4THP-90 (EUT) was connected to an AC Adapter, Video Generator, and switch. The EUT was transmitting while being modulated by the video generator. The video was received by a receiver. The receiver was connected to a monitor display that displayed the video being generator (color test bars). The antenna port was terminated by a 50 ohm terminator. The receiver and monitor display were placed about 30 feet away from the test site.

The switch was used to change the channels on the EUT.

The final radiated data was taken in the mode described above. Please see Appendix E for the data sheets.

4.1.1 Cable Construction and Termination

Cable 1 This is a 2 meter braid shielded cable connecting the EUT to the video generator. It has a metallic BNC connector at each end. The EUT end also had a BNC to RCA adapter that connected directly to a 4 pin terminal block. The cable was bundled to a length of 1 meter. The shield of the cable was grounded to the chassis via the connectors.

Cable 2 This is a 1 meter braid shielded cable connecting the receiver to the monitor display. It has a metallic BNC connector at each end. The shield of the cable was grounded to the chassis via the connectors.

Cable 3 This is a 6 foot unshielded cable connecting the AC Adapter to the EUT. It has a 1/8 inch power connector that is connected directly to a 4 pin terminal block at the EUT end and is hard wired into the AC Adapter.

Cable 4 This is a 3 inch cable connecting the EUT to the switch. It is hard wired at each end.

5. LISTS OF EUT, ACCESSORIES AND TEST EQUIPMENT

5.1 EUT and Accessory List

EQUIPMENT	MANUFACTURER	MODEL NUMBER	SERIAL NUMBER	FCC ID
VIDEO TRANSMITTER (EUT)	MICROTEK ELECTRONICS, INC.	2.4THP-90	N/A	**JRR-PHIL2-11**
MONITOR DISPLAY	N/A	PSM-02	02CN010041	**N/A**
RECEIVER	MICROTEK ELECTRONICS, INC.	N/A	N/A	**N/A**
AC ADAPTOR	IPC	P/N: PV-1250A	N/A	**N/A**
2 POSITION SWITCH	N/A	N/A	NA	**N/A**

5.2 EMI Test Equipment

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
Radiate Emissions Data Capture Program	Compatible Electronics	2.0	N/A	N/A	N/A
Emissions Program	Compatible Electronics, Inc.	2.3 (SR19)	N/A	N/A	N/A
Spectrum Analyzer – Main Section	Hewlett Packard	8566B	3638A08768	June 21, 2002	1 Year
Spectrum Analyzer – Display Section	Hewlett Packard	85662A	3701A22262	June 21, 2002	1 Year
Spectrum Analyzer – Quasi-Peak Adapter	Hewlett Packard	85650A	2811A01363	June 21, 2002	1 Year
Preamplifier	Com Power	PA-102	1202	Sept. 18, 2002	1 Year
Biconical Antenna	Com Power	AB-900	15011	July 15, 2002	1 Year
Log Periodic Antenna	Com Power	AL-100	01117	Oct. 4, 2002	1 Year
Computer	Hewlett Packard	D5251A 888	US74458128	N/A	N/A
RF Attenuator	Weinschel Corp.	2	BJ6394	July 30, 2002	1 Year
LISN	Com-Power	LI-215	12090	Nov. 18, 2002	1 Year
LISN	Com-Power	LI-215	12076	Nov. 18, 2002	1 Year
Loop Antenna	Com-Power	AL-130	17070	June 19, 2002	1 Year
Horn Antenna	Antenna Research	DRG-118/A	1053	Jan. 13, 2002	2 Year
Horn Antenna	Com-Power	AH-118	10073	Jan. 21, 2002	2 Year
Microwave Preamplifier	Com-Power	PA-122	25195	Jan. 2, 2003	1 Year

EMI Test Equipment (Continued)

EQUIPMENT TYPE	MANU-FACTURER	MODEL NUMBER	SERIAL NUMBER	CAL. DATE	CAL. CYCLE
Amplifier	Hewlett Packard	11975A	2403A00202	Mar. 14, 2002	1 Year
Harmonic Mixer	Hewlett Packard	11970K	3003A05460	Mar. 14, 2002	1 Year
Horn Antenna	Com-Power	AH826	0071957	Nov. 3, 2001	2 Year
Microwave Preamplifier	Com-Power	PA-840	711013	Mar. 6, 2002	1 Year
Variable Autotransformer	Staco Energy Products	3PN1010	N/A	N/A	N/A
Multimeter	Fluke	87	51350019	July 11, 2002	1 Year

6. TEST SITE DESCRIPTION

6.1 Test Facility Description

Please refer to section 2.1 and 7.1 of this report for EMI test location.

6.2 EUT Mounting, Bonding and Grounding

The EUT was mounted on a 1.0 by 1.5 meter non-conductive table 0.8 meters above the ground plane.

The EUT was not grounded.

7. TEST PROCEDURES

The following sections describe the test methods and the specifications for the tests. Test results are also included in this section.

7.1 Radiated Emissions Test for Part 15

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Com-Power Microwave Preamplifier Model: PA-122 was used for frequencies above 1 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

For the peak readings below 1000 MHz that were within 3 dB of the spec limit or higher, the quasi-peak adapter was used.

For the peak readings above 1000 MHz that were within 3dB of the spec limit or higher, the readings were averaged manually by narrowing the video filter down to 10 Hz and slowing the sweep time to keep the amplitude reading calibrated.

The measurement bandwidths and transducers used for the radiated emissions test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	200 Hz	Active Loop Antenna
150 kHz to 30 MHz	9 kHz	Active Loop Antenna
30 MHz to 300 MHz	120 kHz	Biconical Antenna
300 MHz to 1 GHz	120 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 1992. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters. Data was collected in the worst case (highest emission) configuration of the EUT. At each reading, the EUT was rotated 360 degrees and the antenna height was varied from 1 to 4 meters (for E field radiated field strength). The gunsight method was used when measuring with the horn antenna in order to ensure accurate results. The loop antenna was also rotated in the horizontal and vertical axis in order to ensure accurate results.

Radiated Emissions (Spurious and Harmonics) Test (con't)

The presence of ambient signals was verified by turning the EUT off. In case an ambient signal was detected, the measurement bandwidth was reduced temporarily and verification was made that an additional adjacent peak did not exist. This ensures that the ambient signal does not hide any emissions from the EUT. The EUT was tested at a 3 meter test distance to obtain final test data. The final qualification data sheets are located in Appendix E.

For the 22 GHz – 25 GHz span, the Hewlett Packard 11970K Harmonic Mixer and the Hewlett Packard 11975A Amplifier were used to allow the spectrum analyzer to scan up to 25 GHz.

7.2 Radiated Emissions (Spurious and Harmonics) Test for Part 90

The spectrum analyzer was used as a measuring meter along with the quasi-peak adapter. Amplifiers were used to increase the sensitivity of the instrument. The Com Power Preamplifier Model: PA-102 was used for frequencies from 30 MHz to 1 GHz, and the Com Power Microwave Preamplifier Model: PA-122 was used for frequencies above 1 GHz. The spectrum analyzer was used in the peak detect mode with the "Max Hold" feature activated. In this mode, the spectrum analyzer records the highest measured reading over all the sweeps.

The video bandwidth was set at 300 kHz for spurious emissions below 1 GHz, and 3 MHz for spurious emissions above 1 GHz.

The sweep time was set to a time slow enough to maintain the measurement calibration of the spectrum analyzer.

The resolution bandwidths and transducers used for this test were:

FREQUENCY RANGE	EFFECTIVE MEASUREMENT BANDWIDTH	TRANSDUCER
9 kHz to 150 kHz	10 kHz	Active Loop Antenna
150 kHz to 30 MHz	10 kHz	Active Loop Antenna
30 MHz to 300 MHz	10 kHz	Biconical Antenna
300 MHz to 1 GHz	10 kHz	Log Periodic Antenna
1 GHz to 25 GHz	1 MHz	Horn Antenna

The open field test site of Compatible Electronics, Inc. was used for radiated emission testing. This test site is set up according to ANSI C63.4: 1992. Please see section 6.2 of this report for mounting, bonding and grounding of the EUT. The turntable supporting the EUT is remote controlled using a motor. The turntable permits EUT rotation of 360 degrees in order to maximize emissions. Also, the antenna mast allows height variation of the antenna from 1 meter to 4 meters.

The substitution method was used to obtain the data as follows:

1. The EUT was mounted on an 80 cm high non-conductive table that was placed on the turntable. The EUT was terminated via a 50 ohm terminator.

2. The receiving antenna was mounted in a horizontal polarization and raised and lowered between 1 meter and 4 meters to obtain the maximum reading on the spectrum analyzer. Then the turntable was rotated 360 degrees to determine the maximum reading. This procedure was repeated to obtain the highest possible reading. The maximum reading was recorded.

3. Step #2 was repeated for the vertical polarization.

Radiated Emissions (Spurious and Harmonics) Test for Part 90 (continued)

4. The spectrum analyzer settings were kept as mentioned above.

5. The EUT was replaced with a substitution antenna. The center of the substitution antenna was placed approximately at the same location as the center of the EUT.

6. The substitution antenna was fed a signal from an external signal generator by means of a non-radiating cable. Both the substitution and receiving antenna were placed in the horizontal polarization. The signal generator was then tuned to the particular spurious frequency. The receiving antenna was then raised and lowered to obtain a maximum reading at the spectrum analyzer. The level of the signal generator output was then adjusted to match the previously recorded maximum reading obtained in step #2.

7. Step #6 was repeated for the vertical polarization.

8. The output of the signal generator was taken by connecting the non-radiating cable connected to the output of the signal generator to the spectrum analyzer. This was so that the loss of the non-radiating cable could be taken in to account. The reading measured by the spectrum analyzer was then recorded.

9. The gain of the substitution antenna was then added from the spectrum analyzer reading. This reading was then compared to the spec limit.

7.3 Radiated Emissions (Spurious and Harmonics) Limit for Part 90

The limits for radiated emissions are based on the power of the transmitter at the operating frequency.

For an operating power range of 0.363 watts, the radiated emissions limit for spurious signal outside of the assigned frequency block is 43+10 Log (mean output power in watts) dB below the measured amplitude at the operating power.

The measured effective radiated power of the EUT was 25.6 dBm (132.6 dBuV/m). The required attenuation is 43 + 10 log (0.363) or 38.6 dB. Thus, the limit for spurious and harmonic emissions is:

25.6 dBm (132.6 dBuV/m) – 38.6 dB = –13.0 dBm (94.0 dBuV/m).

7.4 RF Power Output of the EUT

The RF Power Output for the EUT was taken using the spectrum analyzer. The spectrum analyzer was offset by 10.1 dB to account for the 10 dB external attenuator and the cable loss. Both the low and high channels were checked. Please see the plots located in Appendix E of this test report.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 90, section 90.205 (1).

7.5 Modulation Characteristics – Audio Frequency Response

This test was not performed because this test is not applicable to the EUT.

7.6 Modulation Characteristics – Audio Frequency Response

This test was not performed because this test is not applicable to the EUT.

7.7 Occupied Bandwidth for the EUT

The Occupied Bandwidth test was performed using the spectrum analyzer. The EUT was connected directly to the spectrum analyzer through one 10 dB attenuator (to protect the input of the spectrum analyzer). The analyzer was offset by 10.1 dB to account for the 10 dB external attenuator and the cable loss. The resolution bandwidth was set to 30 kHz, video bandwidth was set to 100 kHz and the trace was set to max hold. Please see the plots located in Appendix E of this test report.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 90, section 90.210 (b).

7.8 Spurious Emissions at the Antenna Terminal

The spurious emissions at the antenna terminal were performed using the spectrum analyzer. The test was measured using a direct connection from the RF out port of the EUT into the input of the analyzer through one 10 dB attenuator (to protect the input of the spectrum analyzer). The analyzer was offset by 10.1 dB to account for the 10 dB external attenuator and the cable loss. The resolution and video bandwidths were both 100 kHz. The spans were wide enough to include all the harmonics and emissions that were produced by the antenna terminal. Please see the plots located in Appendix E of this test report.

Test Results:

The EUT complies with the limits of CFR Title 47, Part 90, section 90.210 (b).

7.9 Frequency Stability

The EUT was placed inside a temperature chamber and the spectrum analyzer was connected directly to the antenna terminal. The test was performed from -30ºC to +50ºC at intervals of 10ºC. Dwell time at each temperature was 20 minutes minimum. Also, at +20ºC the input AC voltage to the AC Adaptor was varied between 85% (102 Volts) and 115% (138 volts) using the variable autotransformer. The voltage from the variable autotransformer was monitored by a multimeter. Please see the data located in Appendix E of this test report. The temperature testing procedure, photo, and graph are located in Appendix F of this test report.

Test Results:

The EUT complies with the requirements of CFR Title 47, Part 90, section 90.213.

8. EMISSION DESIGNATOR

The emissions designator is 8MOF3F and was arrived at by the following method:

Bandwidth was determined using the following formula:
2M+2D = Necessary Bandwidth, where M= highest modulation frequency and D = peak deviation.
Maximum modulation frequency = 4 mHz video modulation.
Deviation = 4 mHz.
2 X 2500000 = 5000000 + (2 X 1500000) = 8 mHz
= 8 MO

Modulation type is frequency modulation, one analog channel television.
=F3F

Thus, the emissions designator is: 8MOF3F

9. CONCLUSIONS

The Video Transmitter Model: 2.4THP-90 meets all of the **Class B** specification limits defined by CFR Title 47, Part 15, Subpart B; and CFR Title 47, Part 90, Subpart I.

APPENDIX A

LABORATORY RECOGNITIONS

LABORATORY RECOGNITIONS

Compatible Electronics has the following agency accreditations:

National Voluntary Laboratory Accreditation Program - Lab Code: 200528-0

Voluntary Control Council for Interference - Registration Numbers: R-983, C-1026, R-984 and C-1027

Bureau of Standards and Metrology Inspection - Reference Number: SL2-IN-E-1031

Conformity Assessment Body for the EMC Directive Under the US/EU MRA Appointed by NIST

Compatible Electronics is recognized or on file with the following agencies:

Federal Communications Commission

Industry Canada

Radio-Frequency Technologies (Competent Body)

APPENDIX B

MODIFICATIONS TO THE EUT

MODIFICATIONS TO THE EUT

The modifications listed below were made to the EUT to pass FCC Part 15 and/or FCC Part 90 specifications.

All the rework described below was implemented during the test in a method that could be reproduced in all the units by the manufacturer.

No modifications were made to the EUT during the testing.

APPENDIX C

ADDITIONAL MODELS COVERED UNDER THIS REPORT

ADDITIONAL MODELS COVERED UNDER THIS REPORT

USED FOR THE PRIMARY TEST	Video Transmitter Model: 2.4THP-90 S/N: N/A

No additional models were covered under this report.

APPENDIX D

DIAGRAMS, CHARTS, AND PHOTOS

FIGURE 1: CONDUCTED EMISSIONS TEST SETUP

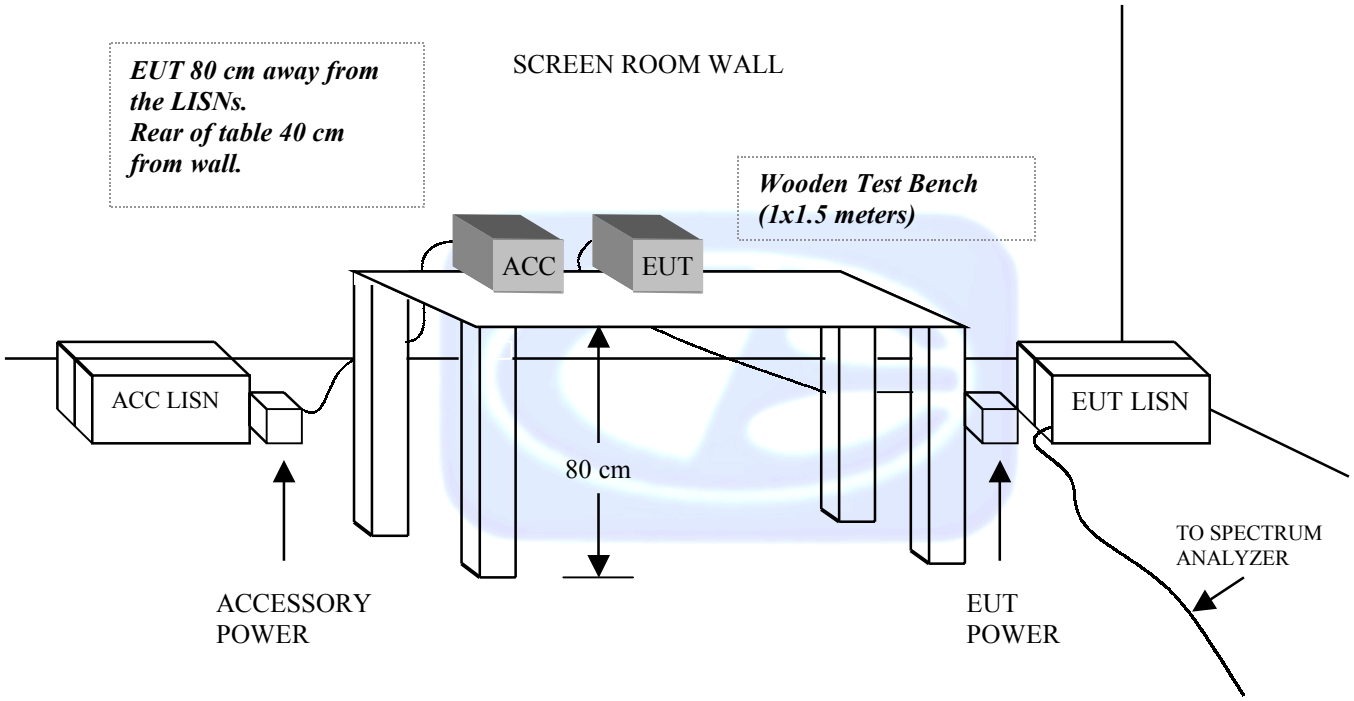
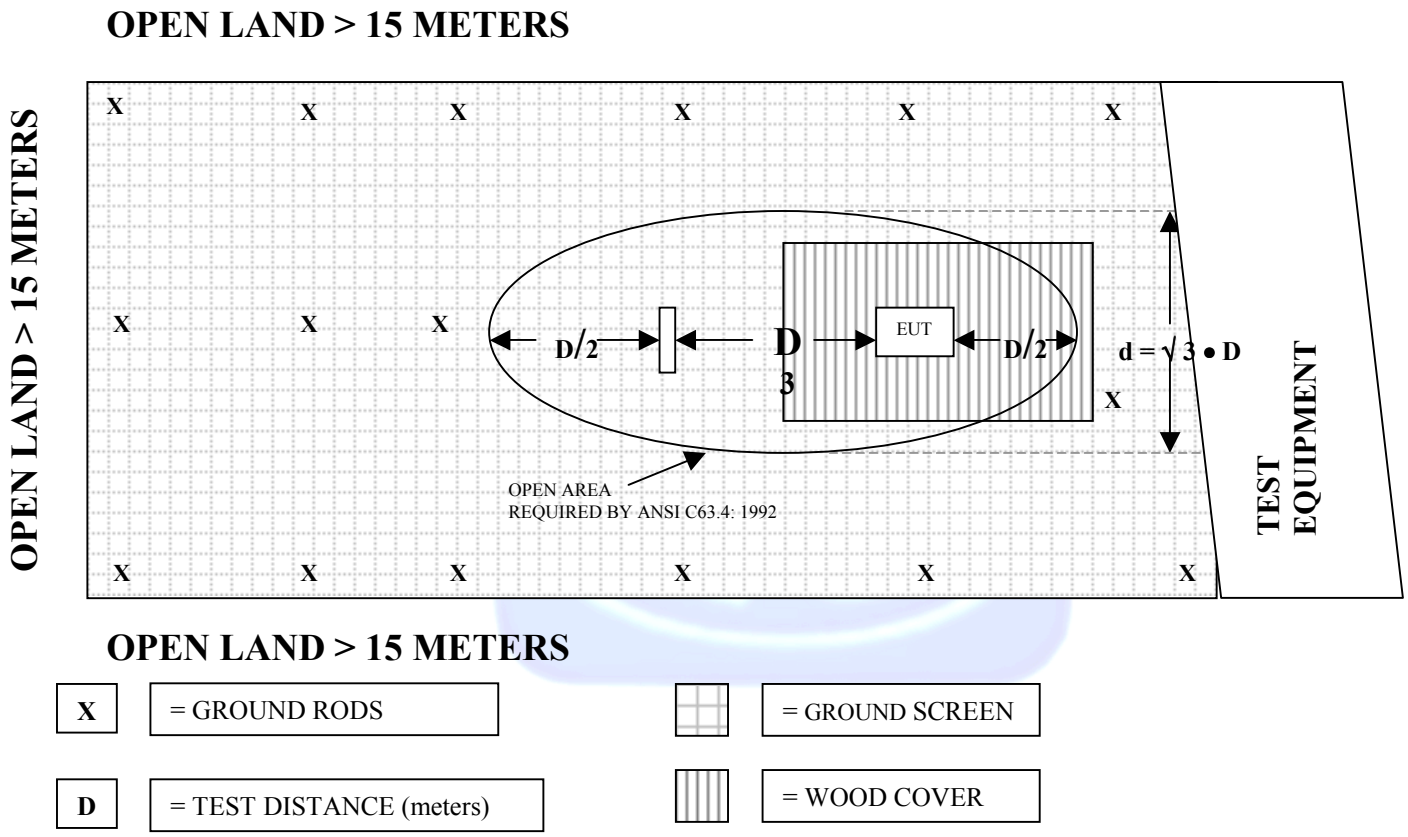


FIGURE 2: PLOT MAP AND LAYOUT OF RADIATED SITE



COM-POWER AB-900

BICONICAL ANTENNA

S/N: 15011

CALIBRATION DATE: JULY 15, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	11.30	120	14.10
35	10.40	125	13.20
40	11.80	140	12.20
45	13.10	150	12.00
50	12.30	160	13.50
60	1210	175	15.60
70	8.10	180	16.30
80	6.50	200	16.70
90	9.50	250	16.50
100	11.40	300	19.30

COM-POWER AL-100

LOG PERIODIC ANTENNA

S/N: 01117

CALIBRATION DATE: OCTOBER 4, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
300	13.80	700	19.50
350	15.40	750	20.70
400	15.80	800	22.00
450	16.00	850	21.90
500	17.20	900	22.50
550	17.00	950	23.40
600	18.40	1000	25.60

COM-POWER PA-102

PREAMPLIFIER

S/N: 1202

CALIBRATION DATE: SEPTEMBER 18, 2002

FREQUENCY (MHz)	FACTOR (dB)	FREQUENCY (MHz)	FACTOR (dB)
30	35.4	300	34.9
40	35.4	350	34.7
50	35.5	400	34.8
60	35.5	450	34.7
70	35.5	500	33.9
80	35.6	550	34.5
90	35.8	600	34.3
100	35.8	650	34.0
125	35.6	700	33.9
150	35.3	750	34.1
175	35.0	800	34.0
200	35.1	850	33.8
225	35.1	900	33.7
250	35.3	950	32.9
275	35.3	1000	33.8

COM-POWER PA-122

MICROWAVE PREAMPLIFIER

S/N: 25195

CALIBRATION DATE: JANUARY 7, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	33.7	9.5	31.8
1.1	33.4	10.0	32.2
1.2	33.1	11.0	31.4
1.3	33.1	12.0	30.2
1.4	33.2	13.0	32.9
1.5	32.5	14.0	33.9
1.6	32.7	15.0	32.4
1.7	32.3	16.0	32.2
1.8	32.3	17.0	31.5
1.9	31.4	18.0	32.2
2.0	32.8	19.0	31.2
2.5	33.3	20.0	31.3
3.0	31.7	21.0	31.7
3.5	31.6	22.0	29.7
4.0	31.2		
4.5	31.2		
5.0	31.0		
5.5	31.3		
6.0	32.1		
6.5	32.1		
7.0	31.8		
7.5	32.0		
8.0	33.1		
8.5	32.0		
9.0	30.8		

ANTENNA RESEARCH DRG-118/A

HORN ANTENNA

S/N: 1053

CALIBRATION DATE: JANUARY 13, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
1.0	25.5	9.5	39.1
1.5	26.6	10.0	39.7
2.0	29.4	10.5	40.9
2.5	30.4	11.0	40.7
3.0	31.2	11.5	42.4
3.5	32.3	12.0	42.6
4.0	32.9	12.5	42.4
4.5	33.0	13.0	41.5
5.0	34.8	13.5	41.0
5.5	35.2	14.0	40.5
6.0	36.4	14.5	43.6
6.5	36.6	15.0	43.7
7.0	38.8	15.5	43.3
7.5	38.8	16.0	42.8
8.0	38.0	16.5	43.0
8.5	38.1	17.0	42.7
9.0	39.9	17.5	44.0
		18.0	41.8

COM-POWER AL-130

LOOP ANTENNA

S/N: 17070

CALIBRATION DATE: JUNE 19, 2002

FREQUENCY (MHz)	MAGNETIC (dB/m)	ELECTRIC (dB/m)
0.009	-40.4	11.1
0.01	-40.3	11.2
0.02	-41.2	10.3
0.05	-41.6	9.9
0.07	-41.4	10.1
0.1	-41.7	9.8
0.2	-44.0	7.5
0.3	-41.6	9.9
0.5	-41.3	10.2
0.7	-41.4	10.1
1	-40.9	10.6
2	-40.6	10.9
3	-40.5	11.0
4	-40.8	10.7
5	-40.2	11.3
10	-40.7	10.8
15	-41.4	10.1
20	-41.6	9.9
25	-41.7	9.8
30	-42.9	8.6

COM-POWER AH826

HORN ANTENNA

S/N: 0071957

CALIBRATION DATE: NOVEMBER 03, 2001

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	32.3	22.5	32.5
18.5	32.2	23.0	32.1
19.0	32.3	23.5	32.3
19.5	31.9	24.0	32.3
20.0	32.0	24.5	32.9
20.5	32.3	25.0	33.1
21.0	32.0	25.5	32.9
21.5	32.3	26.0	33.4
22.0	32.5	26.5	33.0

COM-POWER PA-840

MICROWAVE PREAMPLIFIER

S/N: 711013

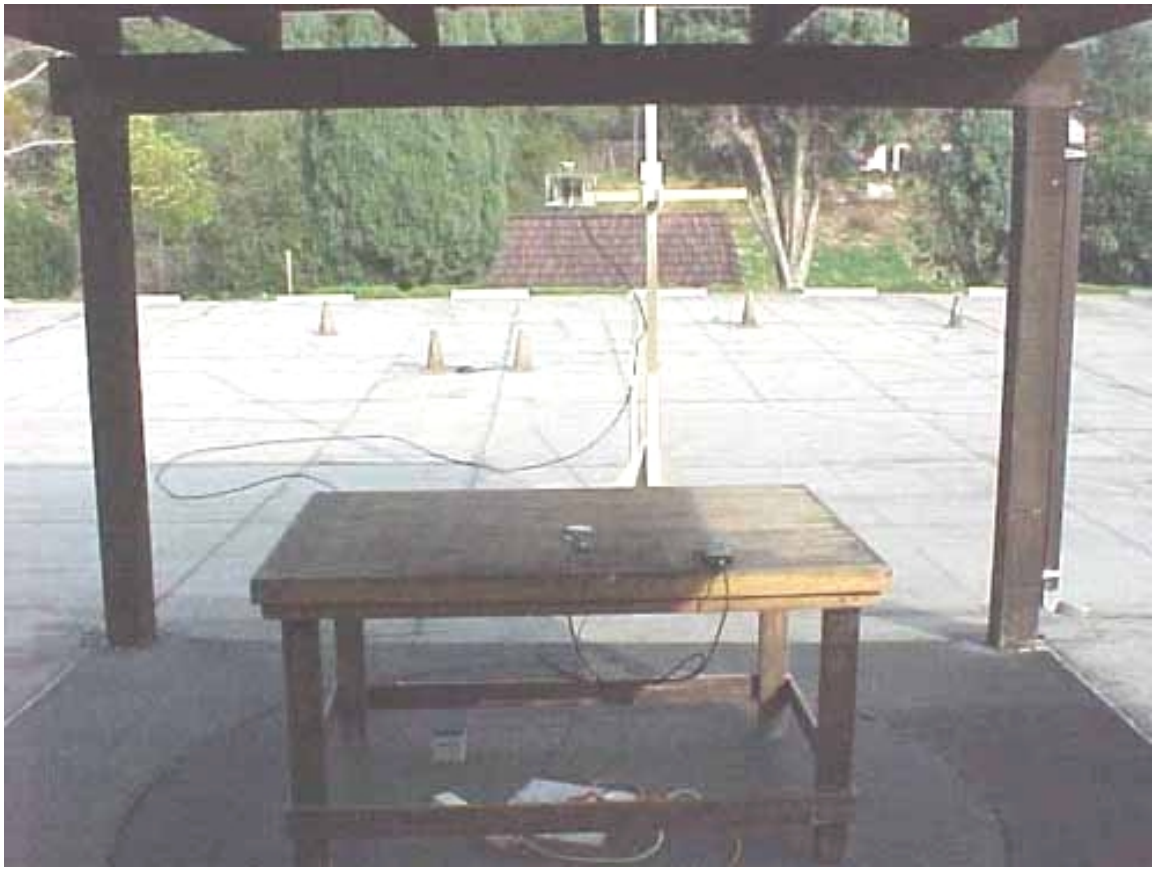
CALIBRATION DATE: MARCH 06, 2002

FREQUENCY (GHz)	FACTOR (dB)	FREQUENCY (GHz)	FACTOR (dB)
18.0	26.4	30.0	27.6
19.0	25.4	31.0	27.3
20.0	24.5	32.0	26.9
21.0	23.9	33.0	26.7
22.0	24.0	34.0	27.0
23.0	24.4	35.0	25.9
24.0	25.2	36.0	25.5
25.0	26.1	37.0	26.2
26.0	26.6	38.0	25.6
27.0	27.2	39.0	23.4
28.0	27.4	40.0	24.3
29.0	27.5		

FRONT VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 2.4THP-90
FCC PART 90 AND SUBPART B - RADIATED EMISSIONS – 1-14-03

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS



REAR VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 2.4THP-90
FCC PART 90 AND SUBPART B - RADIATED EMISSIONS – 1-14-03

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

FRONT VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 2.4THP-90
FCC SUBPART B – CONDUCTED EMISSIONS – 1-15-03

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS

REAR VIEW

MICROTEK ELECTRONICS, INC.
VIDEO TRANSMITTER
MODEL: 2.4THP-90
FCC SUBPART B – CONDUCTED EMISSIONS – 1-15-03

PHOTOGRAPH SHOWING THE EUT CONFIGURATION FOR MAXIMUM EMISSIONS